WWW.IJRPR.COM

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

To Study the Layout and Manufacturing Process of Tablet Dosage Form

[1] Miss. Rutuja Pramodkumar Dangmodekar, [2]Dr. Gawade S.P.

[1]Student LNBCIOP Satara
[2]Asst. Prof. LNBCIOP Satara

ABSTRACT: -

Tablet are most well-known dosage form. its easy to administered, more stable ,and easy to dispensing. In the process of tablet formation layout, pilot plant scale up and expression of tablet its main aspects. The arrangement or structure of different areas like manufacturing area, production area , storehouse area ,packaging region must be air conditioned, extensive, clean ,sterile and must be free from light humidity and heat

• The staff appendages must be knowledgeable with differing phase in field of pharmacology, manufacture, pack, quality control, quality assurance, basic computer knowledge etc.

• The apparatus used in manufacturing industries must be well maintained and calibrated.

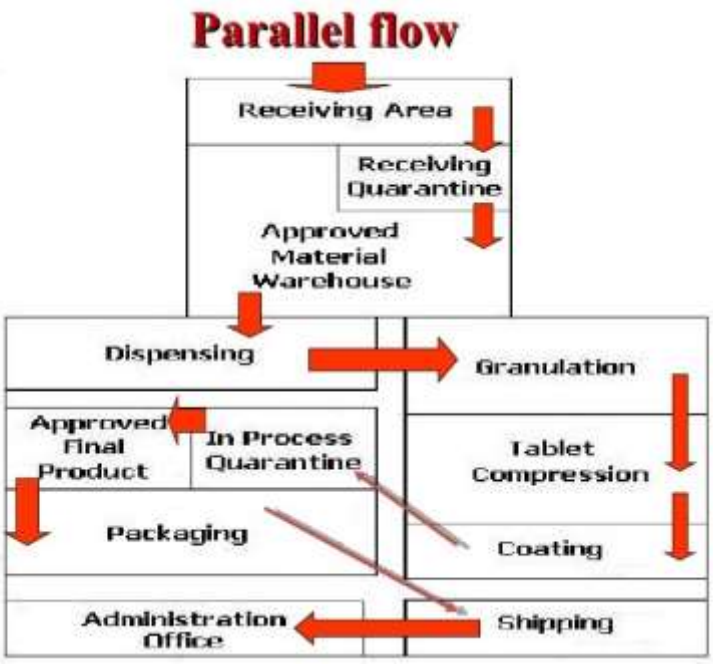
• It is required to design safety measures which is different most essential aspect of manufacturing industry

• All the sop rules and regulations concerning production And production of pill should be rigidly attended by the corporation.

Introduction:-

For the formulation of tablet development of design is most influential . layout is a primary blue print of distribution of various area and help in the manufacturing region. Layout is believe the device which made in whole. Tablet is a pharmaceutical oral dosage form or stable unit dosage form. tablet generally intake by oral route. Tablet manufacturing process includes measuring, milling ,mixing granulation , drying, and Styrofoam

Layout of Manufacturing tablet Dosage form



Layout:- layout is a plan or draft , layout means technique of placing machines ,processes and plant services inside the workshop . layout helps to achieve the greatest achievable output of high quality amount at hostile cost of manufacturing. Layout indicating the configuration and sixes of all use premises.

1) Receiving area and quarantine unit:-

Receiving area means receive the all material use for the result for tablet. Receiving procedure is wanted to properly check the all arriving merchandise, raw materials , mark them with tag, maintain the record of taken material Quarantine unit :- Quarantine Storage is the management district in each of our warehouses, place the parts that cannot be directly taken due to differing issues, are sent to for further processing.

2) Pharmaceutical Warehouse:-

Warehouse means the storage area should the sufficient capacity to store the various material and product like;

1) Raw Material

2) Finished Product

3) Product In Quarantine

4) Extra Stock

5) Packaging Material

6) Equipment's

7) Maintenance Material

3) Dispensing:-

Dispensing area is the area where each ingredient in tablet expression is accurately weigh and dispense as per requirement to the production area In this main responsibility store human and result customer Each material should be consider and operate in proper sequence like 1)excipients 2) active ingredient 3)colours and flavours

4) Granulation:-

Granulation, the process of particle increase by agglomeration method, is individual of the most significant unit operations in the production of drug dosage forms, mostly tablets and capsules. Granulation process transfers fine powders into free-flowing, dust-free granules that are easy to compress. Granulation is a process in which powder atoms are made to obey each one, resulting in largest, multi-particle entities, so called granules. If such a process is performed without adding fluids, this is called dry granulation.

5) Tablet compression:-

A tablet compressing machine converts granulated powder into pressed tablets of uniform size and weight. A tablet press machine is widely used in the pharmaceutical industry as it converts various powdered materials into tablets by using the basic principle of compression.

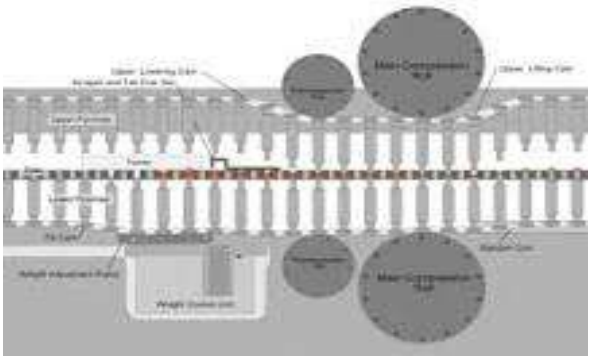
Tablet compression has a 2 types

1) Direct compression method

2) Using granulation method

1) tablet compressor:-

The basic principle behind the tablet compression machine is hydraulic pressure. This pressure is transmitted unreduced through the static fluid. Any externally applied pressure is transmitted via static fluid to all the directions in the same proportion. It also makes it possible to multiply the force as needed.



1) Tablet press machine:-

Multi-station tablet press machine Multi-station is having high productivity with a minimal amount of labour. Multi-station decreases the waste to minimal non-specific tablets. The tablet press machine doesn't require more maintenance, hence it is affordable in price. It conducts dust-free production and easy to clean.

6) approved final product

Finished Product is defined as the medicinal product that has undergone all stages of production, including packaging in its final container. The specifications for release of the finished product must comply with the FDA regulations. Finished product testing will be performed as per guidelines by FDA. All finished products must be tested prior to distribution. The tests that are performed will ensure that the product meets established specifications and that these specifications account for its purity, integrity, efficacy, and concentration.

7) Packaging:-

At its most base level, product packaging serves to protect the product inside. Packaging must keep the product safe during shipment between the manufacturing facility and the retailer and must prevent damage while the product sits on the shelf. Therefore, product packaging must be sturdy and reliable.

Conclusion:-

In the tablet manufacturing process, powders are blended and then compressed into tablets. In the tablet manufacturing process, powders are blended and then compressed into tablets. The powders must be of uniform size and weight so that they can be accurately measured.

The primary goal of the manufacturing process of a tablet is to produce tablets that can withstand the mechanical shocks during the several stages of production until its usage. Also, the manufacturers have to consider its uniformity in weightage along with its chemical and physical stability to make it long-lasting.